

APHIDS OF PAPUA AND NEW GUINEA: AN ANNOTATED CHECK LIST

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Synopsis

Fifty-seven species of aphids are listed from New Guinea. Most of these have been part of a collection of 6,000 alates from Moericke traps located in four different areas. Some host information is given, together with an index of host plants. The British Museum (Natural History) collection has been examined.

INTRODUCTION

During the past three years, more than 6,000 specimens of alate aphids have been collected at four main sites in the Territory of Papua and New Guinea. Since no previous lists of aphids have been published for this country, the systematic results of trapping are summarized here, together with limited host information, mainly based on materials in the collection of the British Museum (Natural History). Some records from earlier literature are included, but species not seen by the author are marked with an asterisk (*). Fifty-five species are listed. Sixteen of these species were mentioned by Eastop (1966) as occurring in Papua or New Guinea.

Trapping was carried out using yellow Moericke trays at Waigani (near Port Moresby), Central District; at Bulolo (altitude 2,400 ft.), Morobe District; at Goroka (altitude 5,300 ft.), Eastern Highlands District; and at Keravat (altitude 50 ft.), East New Britain District. Trapped species are marked "T" and specimens examined in the British Museum Collection are marked "BM".

Family APHIDIDAE

Subfamily *Aphidinae*

1. *Aphis (Pergandeida) craccivora* Koch, 1854.

BM; T—Waigani, Bulolo, Goroka, Keravat, also specimens from Morobe and Aiyura. Hosts: *Vigna sinensis sesquipedalis* (yard-long bean), *Vigna sinensis sinensis*, *Phaseolus* sp., *Centrosema pubescens*, *Gliricidia sepium*, peanut. Eastop (1966).

2. *Aphis (Cerosiphida) glycines* Matsumura, 1917.

BM; T—Waigani, Bulolo, Keravat. Host: Soya bean.

3. *Aphis (Cerosiphida) gossypii* Glover, 1877.

BM; T—Waigani, Goroka, Bulolo, also specimens from Morobe and Chimbu. Hosts: *Carica papaya*, *Cassia* sp., *Albizia chinensis*, *Cucurbita moschata*, *Hibiscus abelmoschus*, *Hibiscus rosa-sinensis*, *Cyphomandra* (tree tomato), potato, taro, *Tephrosia* sp. Heie (1967), Valoka, New Britain; Szent-Ivany (1956) on *Malva parviflora*. One of the most abundant and widespread aphid species.

4. *Aphis ? hardyi* Eastop, 1966.

T—Bulolo.

5. *Aphis nerii* Boyer de Fonsecolombe, 1841.
BM ; T—Waigani, Bulolo, Heie (1967)—*Asclepias curassavica* L. Lorengau, Manus, Admiralty Is. 24.vi.1962.
6. *Aphis (Medoralis) spiraecola* Patch, 1914.
BM ; T—Waigani, Bulolo, Keravat. Eastop (1966).
7. *Brachycaudus helichrysi* (Kaltenbach, 1843).
BM ; T—Waigani, Goroka, Keravat ; also recorded from Aiyura. Host : *Crotalaria anagyroides*. Szent-Ivany (1956).
8. *Brachysiphoniella montana* (van der Goot, 1917).
BM ; Aiyura, on *Leersia hexandra*.
9. *Capitophorus hippophaes mitegoni* Eastop, 1956.
BM ; T—Waigani.
10. *Hyalopterus pruni* (Geoffrey, 1762).
BM ; T—Waigani, Bulolo. Host : *Celosia argentea* (banana). Eastop (1966).
11. *Hyperomyzus carduellinus* (Theobald, 1915).
BM ; T—Bulolo.
12. *Hysteroneura setariae* (Thomas, 1877).
BM ; T—Waigani, Bulolo ; also specimens from Gaimazung.
13. **Indomegoura indica* (van der Goot, 1916).
Calilung (1967) refers to this species as occurring in "Dutch New Guinea".
14. *Lipaphis erysimi* (Kaltenbach, 1843).
BM ; T—Waigani, Bulolo, Keravat.
15. *Longiunguis sacchari* (Zehntner, 1897).
BM ; T—Waigani, Keravat ; also specimens from Bulia on sugar-cane. Eastop (1966).
16. *Macromyzus polypodicola* (Takahashi, 1921).
BM ; T—Waigani, Goroka, Bulolo, Keravat.
17. *Macrosiphoniella (Pyrethromyzus) sanborni* (Gillette, 1908).
BM ; Aiyura, on *Chrysanthemum* sp. Eastop (1966).
18. *Macrosiphum (Sitobion) graminis* Takahashi, 1950.
BM ; T—Goroka ; Mt. Kaindi, on grass (B. C. Peters).
19. **Macrosiphum (Sitobion) leelamaniae* Kan. David, 1958.
Bulolo, on grass (B. C. Peters).
20. *Macrosiphum (Sitobion) ? rosaeformis* Das, 1918.
T—Goroka.
21. **Macrosiphum (Sitoion) ? smilacifoliae* Takahashi, 1921.
Recorded by Heie (1967) from Yalom, New Britain.
22. *Macrosiphum rosae* (L., 1758).
BM ; Kainantu and Aiyura, on rose.
23. *Micromyzus dispersum* (van der Goot, 1917).
(Syn. *M. eastopi* Carver, 1965).
BM ; T—Goroka.
24. *Micromyzus ? katoi* (Takahashi, 1925).
On *Platycerium wandae* (syn. *P. wilhelmina-reginae*), Bulolo (B. C. Peters).
25. *Myzus ornatus* Laing, 1932.
BM ; Aiyura, on *Crotalaria anagyroides*.

26. *Myzus (Nectariosiphon) persicae* (Sulzer, 1776).
 BM ; T—Bulolo, Goroka, Keravat ; also recorded from Aiyura. Hosts : *Crotalaria anagyroides*, *Cyphomandra*, *Gladiolus*, *Ipomoea batatas*, *Passiflora foetida*, *Vitis arborea* (pepper vine). Eastop (1966).

27. *Neomyzus circumflexus* (Buckton, 1876).
 BM ; Aiyura, Wau, Bulolo. Hosts : *Physalis peruviana*, *Smilax* sp. Eastop (1966).

28. *Pentalonia gavarri* Eastop, 1967.
 BM ; T—Keravat.

29. *Pentalonia nigronervosa* Coquerel, 1859.
 BM ; T—Waigani, Bulolo, Goroka, Keravat. Hosts : Banana, *Colocasia*, *Caladium*.

30. *Rhopalosiphum maidis* (Fitch, 1856).
 BM ; T—Waigani, Bulolo, Keravat ; also recorded from Asaro Valley, Aiyura, Tapini. Hosts : *Sorghum vulgare*, *Zea mays*. Szent-Ivany (1958).

31. *Rhopalosiphum rufiabdominalis* (Sasaki, 1899).
 T—Bulolo.

32. *Schizaphis cyperi* (van der Goot, 1917).
 BM ; T—Bulolo.

33. *Schizaphis graminum* (Rondani, 1852).
 T—Keravat.

34. *Schizaphis minuta* (van der Goot, 1917).
 BM ; T—Waigani.

35. *Shinjia pteridifoliae* (Shinji, 1929).
 BM ; T—Goroka.

36. *Sinomegoura citricola* (van der Goot, 1917).
 BM ; Kainantu, on Avocado. Eastop (1966).

37. *Toxoptera aurantii* (Boyer de Fonscolombe, 1841).
 BM ; T—Waigani, Bulolo, Keravat ; also recorded from Aiyura, Bubia, Goroka, Madang, Morobe, Popondetta. Hosts : *Amaranthus*, Cacao, *Coffea arabica*, pepper vine, tea. Dun (1954).

38. *Toxoptera citricidus* (Kirkaldy, 1907).
 BM ; T—Waigani ; also recorded from Aiyura, Asaro, Bubia, Rigo and Wau on *Citrus*. Eastop (1966).

Subfamily *Lachninae*

39. *Lachnus tropicalis* (van der Goot, 1916).
 BM ; Goroka on *Casuarina equisetifolia*.

40. *Greenidia ficicola* Takahashi, 1921.
 BM ; Eastern Highlands, on *Ficus*. Eastop (1966).

41. *Greenidia (Trichosiphum) formosana* (Maki, 1917).
 BM ; T—Bulolo, Wau.

42. **Paratrichosiphum ? javanicum* Ray Chaudhuri, 1956.
 T—Goroka, Wau.

Subfamily *Greenideinae*

43. *Anomalosiphum pithecolobii* Takahashi, 1934.
 BM ; T—Waigani.

44. *Cervaphis rappardi* H. R. Lambers, 1956.
 BM ; Keravat, on cacao flowers.

45. *Schoutedenia lutea* (van der Goot, 1917).
 BM ; Port Moresby, on *Breynia cernua*.

Subfamily *Drepanosiphinae*

46. *Neophyllaphis araucariae* Takahashi, 1937.
BM; T—Bulolo, Goroka; Bulolo, on *Araucaria cunninghamii* (B. C. Peters); Wau.

47. **Neophyllaphis rappardi* Hille Ris Lambers, 1967.
On *Agathis labillardieri*, Bosniak, Biak, Western New Guinea (Hille Ris Lambers, 1967).

48. **Sensoriaphis* sp. nov.
On *Nothofagus* sp., Mt. Kaindi (T. Tigner).

Subfamily *Thelaxinae*

49. *Kurisakia onigurumi* (Shinji, 1923).
T—Wan (Y. Lubin).

Subfamily *Hormaphidinae*

50. *Astegopteryx nipae* (van der Goot, 1917).
T—Goroka.

51. *Astegopteryx rappardi* H. R. Lambers, 1953.
BM; Morobe, on coconut. Szent-Ivany (1961).

52. *Ceratovacuna lanigera* Zehntner, 1897.
BM; T—Waigani, Keravat; also recorded from Aiyura, Manum, Samarai, on *Saccharum robustum* (sugar-cane). Szent-Ivany and Cattley (1966).

53. *Cerataphis variabilis* H. R. Lambers, 1953.
BM; T—Keravat; Kokopo, Popondetta, Wewak. Hosts: Coconut, cacao. Szent-Ivany (1961).

54. *Pseudoregma bambusicola* (Takahashi, 1921).
BM; Southern Highlands, on bamboo.

Subfamily *Pemphiginae*

55. *Tetraneura radicicola* Strand, 1929.
BM; Kainantu, on roots of *Imperata*. Szent-Ivany (1956).

56. *Tetraneura nigriabdominalis* (Sasaki, 1899).
BM; T—Waigani, Bulolo, Goroka, Keravat; also recorded from Galmazug and Kainantu. Hosts: grass (roots), *Ipomoea batatas*, Pangola grass roots, *Passiflora foetida*, rice stool, *Leersia hexandra*. This widespread and abundant root aphid often causes reddish-purple leaf discolouration. Heie (1967)—Kwalalessi, New Britain. Eastop (1966).

57. *Geoica lucifuga* (Zehntner, 1897).
BM; T—Goroka; Wau.

HOST PLANT INDEX

Albizia chinensis (Osb.) (Leguminosae-Mimosoideae)—*Aphis (Cerosiphia) gossypii* Glover.

Amaranthus sp. (Amaranthaceae)—*Toxoptera aurantii* (B.d.F.).

Arachis hypogaea L. (Leguminosae-Lotoideae)—*Aphis (Pergandeida) craccivora* Koch.

Araucaria cunninghamii Ait. (Araucariaceae)—*Neophyllaphis araucariae* Tak.

Avocado—see *Persea americana*.

Bamboo—see *Bambusa* sp.

Bambusa sp. (Gramineae)—*Pseudoregma bambusicola* (Tak.).

Banana—see *Musa* sp.

Bean—see *Phaseolus*, *Vigna*.

Breynia cernua Muell. Arg. (Euphorbiaceae)—*Schoutedenia lutea* (v. d. G.).

Cacao—see *Theobroma*.

Caladium sp. (Araceae)—*Pentalonia nigronervosa* Coq.

Camellia sinensis (L.) Kuntze (Theaceae)—*Toxoptera aurantii* (B.d.F.).

Carica papaya L. (Caricaceae)—*Aphis (Cerosipha) gossypii* Glover.

Cassia sp. (Leguminosae-Caesalpinoideae)—*Aphis (Cerosipha) gossypii* Glover.

Casuarina equisetifolia Forst. (Casuarinaceae)—*Lachnus tropicalis* (v.d.G.).

Celosia argentea (L.) Lautb. and K. Schum. (Amaranthaceae)—*Hyalopterus pruni* (Geoff.).

Centrosema pubescens Benth. (Leguminosae-Lotoideae)—*Aphis (Pergandeida) craccivora* Koch.

Chrysanthemum sp. (Compositae)—*Macrosiphoniella (Pyrethromyzus) sanborni* (Gillette).

Citrus sp. (Rutaceae)—*Toxoptera citricidus* (Kirkaldy).

Cocoa—see *Theobroma cacao*.

Cocos nucifera L. (Palmae)—*Astegopteryx rappardi* H.R.L., *Cerataphis variabilis* H.R.L.

Coconut—see *Cocos nucifera*.

Coffea arabica L. (Rubiaceae)—*Toxoptera aurantii* (B.d.F.).

Coffee—see *Coffea arabica*.

Colocasia sp. (Araceae)—*Aphis (Cerosipha) gossypii* Glover, *Pentalonia nigronervosa* Coq.

Cowpea—see *Vigna sinensis sinensis*.

Crotalaria anagyroides H.B. and K. (Leguminosae-Lotoideae)—*Brachycaudus helichrysi* (Klth.), *Myzus ornatus* Laing, *Myzus (Nectarosiphon) persicae* (Sulz.).

Cucurbita moschata Duchesne (Cucurbitaceae)—*Aphis (Cerosipha) gossypii* Glover.

Cyphomandra sp. (Solanaceae)—*Aphis (Cerosipha) gossypii* Glover, *Myzus (Nectarosiphon) persicae* (Sulz.).

Ficus sp. (Moraceae)—*Greenidia ficicola* Tak., 1921.

Fig—see *Ficus*.

Gladiolus sp. (Iridaceae)—*Myzus (Nectarosiphon) persicae* (Sulz.).

Gliricidia sepium (Jacq.) Steud. (Leguminosae-Lotoideae)—*Aphis (Pergandeida) craccivora* Koch.

Glycine max (L.) Merr. (Leguminosae-Lotoideae)—*Aphis (Cerosipha) glycines* Mats.

Gramineae—*Brachysiphoniella montana* (v.d.G.), *Ceratovacuna lanigera* Zehnt., *Longiunguis sacchari* (Zehnt.), *Macrosiphum (Sitobion) leelamaniae* Kan. David, *Pseudoregma bambusicola* (Tak.), *Rhopalosiphum maidis* (Fitch), *Tetraneura radicicola* Strand, *Tetraneura nigriabdominalis* (Sas.).

Grasses—see *Gramineae*.

Hibiscus abelmoschus L. (Malvaceae)—*Aphis (Cerosipha) gossypii* Glov.

Hibiscus rosa-sinensis L. (Malvaceae)—*Aphis (Cerosipha) gossypii* Glover.

Imperata cylindrica (L.) Beauv. (Gramineae)—*Tetraneura radicicola* Strand.

Ipomoea batatas (L.) Lam. (Convolvulaceae)—*Myzus (Nectarosiphon) persicae* (Sulz.), *Tetraneura nigriabdominalis* (Sas.).

Kunai grass—see *Imperata cylindrica*.

Leersia hexandra Sw. (Gramineae)—*Brachysiphoniella montana* (v.d.G.), *Tetraneura nigriabdominalis* (Sas.).

Maize—see *Zea mays*.

Malva parviflora L. (Malvaceae)—*Aphis (Cerosipha) gossypii* Glover.

Musa spp. (Musaceae)—*Pentalonia nigronervosa* Coq.

Oryza sativa L. (Gramineae)—*Tetraneura nigriabdominalis* (Sas.).

Passiflora foetida L. (Passifloraceae)—*Myzus (Nectarosiphon) persicae* (Sulz.), *Tetraneura nigriabdominalis* (Sas.).

Paw-paw—see *Carica papaya*.

Peanut—see *Arachis hypogaea*.

Pepper—see *Piper* sp.

Pepper vine—see *Vitis arborea*.

**Persea americana* Mill. (Lauraceae)—*Sinomegoura citricola* (v.d.G.).

Phaseolus sp. (Leguminosae-Lotoideae)—*Aphis (Pergandeida) craccivora* Koch.

Physalis peruviana L. (Solanaceae)—*Neomyzus circumflexus* (Buckt.).

Piper sp. (Piperaceae)—*Toxoptera aurantii* (B.d.F.).

“Pit-pit”—see *Saccharum robustum*.

Platycerium wandae Raciborski (Polypodiaceae)—*Micromyzus ? katoi* (Tak.).

Potato—see *Solanum tuberosum*.

Potato, sweet—see *Ipomoea batatas*.

Pumpkin, native—see *Cucurbita moschata*.

Rice—see *Oryza sativa*.

Rosa sp. (Rosaceae)—*Macrosiphum rosae* (L.).

Saccharum robustum Brandes and Jesweit ex Grassl. (Gramineae)—*Ceratovacuna lanigera* Zehnt.

Saccharum officinarum L. (Gramineae)—*Longiunguis sacchari* (Zehnt.).

Smilax sp. (Liliaceae)—*Neomyzus circumflexus* (Buckt.).

Solanum tuberosum L. (Solanaceae)—*Aphis (Cerosipha) gossypii* Glover.

Sorghum bicolor (L.) Moench (Gramineae)—*Rhopalosiphum maidis* (Fitch).

Soya bean—see *Glycine max*.

Staghorn fern—see *Platycerium*.

Sugar-cane—see *Saccharum officinarum*.

Sweet potato—see *Ipomoea batatas*.

Taro—see *Colocasia* sp.

Tea—see *Camellia sinensis*.

Tephrosia sp. (Leguminosae-Lotoideae)—*Aphis (Cerosipha) gossypii* Glover.

Theobroma cacao L. (Sterculiaceae)—*Toxoptera aurantii* (B.d.F.), *Cervaphis rappardi* H.R.L., *Cerataphis variabilis* H.R.L.

Tree tomato—see *Cyphomandra*.

Vigna sinensis sesquipedalis (L.) Fruw. (Leguminosae-Lotoideae)—*Aphis (Pergandeida) craccivora* Koch.

Vigna sinensis sinensis Stickm. (Leguminosae-Lotoideae)—*Aphis (Pergandeida) craccivora* Koch.

Vitis arborea (Vitaceae)—*Myzus (Nectarosiphon) persicac* (Sulz.), *Toxoptera aurantii* (B.de.F.).

Yard-long bean—see *Vigna sinensis sesquipedalis*.

Zea mays L. (Gramineae)—*Rhopalosiphum maidis* (Fitch).

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